What is claimed is:

1. A sorbent particle, comprising:

a substrate having an ion exchange capacity of at least about 50 mEq/100g and a plurality of ion exchange sites; and

a plurality of disordered polyvalent metal oxides located at the plurality of ion exchange sites.

2. The sorbent particle of Claim 1, wherein the plurality of metal oxides is a plurality of metal hydroxides.

3. The sorbent particle of Claim 1, wherein the substrate is a silicate.

4. The sorbent particle of Claim 3, wherein the substrate is a phyllosilicate.

5. The sorbent particle of Claim 3, wherein the substrate is a zeolite.

6. The sorbent particle of Claim 3, wherein the substrate is at least one of vermiculite, benonite, and montmorillonite.

7. The sorbent particle of Claim 3, wherein the ion exchange capacity ranges from about 50 to about 150 mEq/100g.

8. The sorbent particle of Claim 1, wherein the polyvalent metal oxide is poorly crystallized.

9. The sorbent particle of Claim 1, wherein the polyvalent metal oxide comprises at least about 5 wt.% water of hydration.

10. The sorbent particle of Claim 1, wherein the substrate is adhered to a carrier substrate different from the substrate.

11. The sorbent particle of Claim 1, wherein the polyvalent metal is selected from the group consisting essentially of zirconium, aluminum, lanthanum, titanium, manganese, tin, iron, zinc, tungsten, and mixtures thereof.

12. The sorbent particle of Claim 1, wherein the polyvalent metal is a transition metal.

13. The sorbent particle of Claim 1, further comprising a plurality of ionic contaminants sorbed onto the sorbent particle.

14. A process for treating a fluid comprising at least one ionic contaminant, comprising:

providing a sorbent, the sorbent comprising a disordered polyvalent metal oxide located on only a portion of the surface area of a substrate and

contacting the fluid with the sorbent to remove at least most of the at least one ionic contaminant from the fluid to form a treated fluid and an ionic contaminant-bearing sorbent.

15. The process of Claim 14, wherein the fluid is an aqueous liquid.

16. The process of Claim 14, wherein the sorbent comprises a substrate that is at least one of vermiculite, montmorillonite, and zeolite.

17. The process of Claim 14, wherein the at least one ionic contaminant is at least one of arsenic, selenium, copper, lead, cadmium, uranium, zinc, plutonium, phosphorus, molybdenum, mercury, and hydroxides and oxides thereof.

18. The process of Claim 14, wherein the polyvalent metal is selected from the group consisting essentially of zirconium, aluminum, lanthanum, titanium, manganese, tin, iron, zinc, tungsten, and mixtures thereof.

19. The process of Claim 14, wherein the polyvalent metal is a transition metal.

20. The process of Claim 14, wherein the polyvalent metal oxide is poorly crystallized.

21. The process of Claim 14, wherein the polyvalent metal oxide comprises at least about 5 wt.% water of hydration.

22. The process of Claim 14, wherein the substrate has an ion exchange capacity ranging from about 50 to about 150 mEq/g.

23. The process of Claim 14, wherein the fluid has a pH ranging from about pH 5 to about pH 9.

24. The process of Claim 14, wherein the substrate is a layered silicate.

25. The fluid stream treated by the process of Claim 14.

26. The ionic contaminant-bearing sorbent of Claim 14.

27. A method for manufacturing a sorbent, comprising:

(a) contacting a solution comprising dissolved polyvalent metal ions with a substrate having a plurality of ion exchange sites to form an ion exchanged substrate having polyvalent metal ions exchanged at the plurality of ion exchange sites; and

(b) contacting the ion exchanged substrate with an oxygen-containing fluid to convert at least most of the polyvalent metal ions exchanged at the plurality of ion exchange sites into metal oxides.

28. The method of Claim 27, wherein the polyvalent metal ions in step (a) are in the form of a salt in the solution.

29. The method of Claim 27, wherein the substrate is at least one of vermiculite, montmorillonite, and zeolite.

30. The method of Claim 27, wherein the polyvalent metal is selected from the group consisting essentially of zirconium, aluminum, lanthanum, titanium, manganese, tin, iron, zinc, tungsten, and mixtures thereof.

31. The method of Claim 27, wherein the polyvalent metal is a transition metal.

32. The method of Claim 27, wherein the polyvalent metal oxide is microcrystalline or poorly crystallized.

33. The method of Claim 27, wherein the polyvalent metal oxide comprises at least about 5% water of hydration.

34. The method of Claim 27, wherein the substrate has an ion exchange capacity ranging from about 50 to about 150 mEq/100g.

35. The method of Claim 27, wherein the polyvalent metal oxide is discontinuously distributed over the substrate.

36. The method of Claim 27, wherein a concentration of the dissolved polyvalent metal in the solution is at least about 1 Molar.

37. The method of Claim 27, wherein the polyvalent metal has a first valence state after the contacting step (b) and further comprising:

thereafter oxidizing the polyvalent metal to a second valence state, the first valence state being less than the second valence state.

38. The method of Claim 37, wherein the polyvalent metal is manganese.

39. A system for purifying an aqueous stream, comprising:

a vessel comprising a bed of sorbent, each of a plurality of sorbent particles in the sorbent bed comprising a substrate having an ion exchange capacity of at least about 50 mEq/100g and a plurality of ion exchange sites and a plurality of disordered polyvalent metal oxides located at the plurality of ion exchange sites;

an input into the vessel for the aqueous stream; and

an output from the vessel for a treated aqueous stream.

40. The system of Claim 39, wherein the plurality of metal oxides is a plurality of metal hydroxides.

41. The system of Claim 39, wherein the substrate is a silicate.

42. The system of Claim 41, wherein the substrate is a phyllosilicate.

43. The system of Claim 41, wherein the substrate is a zeolite.

44. The system of Claim 41, wherein the substrate is at least one of vermiculite, benonite, and montmorillonite.

45. The system of Claim 41, wherein the ion exchange capacity ranges from about 50 to about 150 mEq/100g.

46. The system of Claim 39, wherein the polyvalent metal oxide is poorly crystalized.

47. The system of Claim 39, wherein the polyvalent metal oxide comprises at least about 5 wt.% water of hydration.

48. The system of Claim 39, wherein the substrate is adhered to a carrier substrate different from the substrate.

49. The system of Claim 39, wherein the polyvalent metal is selected from the group consisting essentially of zirconium, aluminum, lanthanum, titanium, manganese, tin, iron, zinc, tungsten, and mixtures thereof.

50. The system of Claim 39, wherein the polyvalent metal is a transition metal.